

ATTORNEY DOCKET NO: 72086

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : SEMMLINGER et al.  
Serial No : 10/595,791  
Confirm. No : 6743  
Filed : May 11, 2006  
For : FRICTION WELDING...  
Art Unit : 1793  
Examiner : Devang R. Patel  
Dated : June 29, 2009

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

REPLY BRIEF

35 U.S.C. 103(a) rejection - Takagi et al. and Farley et al.

The Examiner's Answer states that nowhere in Farley et al. is it disclosed that the backup plate 52 and the actuator block 40 are pushed to the left by the upsetting forces during welding as argued in Appellant's Appeal Brief of March 12, 2009. Appellant respectively disagrees as one of ordinary skill in the art would understand that the backup plate 52 and the actuator block 40 of Farley et al. would be displaced to the left as a result of the axial upsetting force created during friction welding. In fact, the axial upsetting force created via friction welding would be transmitted to the spindle 17 of Farley et al. since the chuck assembly 12 is fastened to the spindle 17 via spindle nose 33. The Examiner's Answer states that Farley et al. discloses that the axial thrust applied by the workpiece WP-2 against the workpiece WP-1 is transferred to the backup plate 52 and then into the actuator block 40. However, at no point

does Farley et al. disclose that the backup plate 52 and the actuator block 40 prevent the axial upsetting force from being transmitted to spindle 17. Farley et al. discloses that the axial upsetting force created during friction welding is transmitted to the spindle 17 as a result of the chuck assembly 12 being connected to the spindle 17 via spindle nose 33.

The Examiner's Answer takes the position that the backup plate 52 and the actuator block 40 of Farley et al. are reasonably expected to absorb torque forces so that the spindle 17 upstream does not receive such torque forces. However, there is no factual basis for such an argument since nowhere in Farley et al. is it disclosed that the backup plate 52 and the actuator block 40 absorb torque forces and prevent them from being transmitted to the spindle 17. In fact, the arrangement of the chuck assembly 12 being connected to the spindle 17 as disclosed in Farley et al. disadvantageously allows torque forces to be transmitted directly to the spindle 17. Column 2, lines 1-11 of Farley et al. disclose that the chuck assembly 12 has a chuck body 31, which is connected to a spindle nose 33 via a screw connection. According to Farley et al., the spindle nose 33 connects the chuck assembly 12 to the spindle 17. Thus, any torque exerted on the chuck body 31 is transmitted directly to the spindle 17 as a result of the chuck body 31 being connected to the spindle 17 via the spindle nose 33.

The Examiner's Answer takes the position that it would have been obvious from the teachings of Takagi et al. to vary the size of spindles, including providing a spindle that is smaller than another spindle. Specifically, the Examiner's Answer relies on Column 4, line 29 and Column 5, lines 55-61 of Takagi et al. to support the position that it would be obvious to a person of ordinary skill in the art to vary the size of spindles. Appellant respectfully

disagrees as a fair reading of Column 4, line 29 and Column 5, lines 55-61 of Takagi et al. only discloses that welding energies can be freely adjusted by selectively controlling the disconnecting time of a main spindle system, which is based on welding conditions such as materials and sizes of workpieces. As such, Column 4, line 29 and Column 5, lines 55-61 of Takagi et al. is only concerned with adjusting weld energy by controlling the disconnect time of the subordinate spindle, but at no point does Column 4, line 29 and Column 5, lines 55-61 disclose varying the size of spindles, including providing one spindle that is smaller than another spindle, as claimed.

As to the other points raised in the Examiner's Answer these are already addressed in Appellant's Appeal Brief of March 12, 2009

For all the above reasons and those stated in Appellant's Appeal Brief, the Board is respectfully requested to overturn the rejections in the last Office Action.

Further action on the merits is respectfully requested.

Respectfully submitted  
for Applicant,

A handwritten signature in black ink, appearing to read 'J. McGlew', with a stylized flourish extending to the right.

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SHOULD ANY OTHER FEE BE REQUIRED, THE PATENT AND TRADEMARK OFFICE  
IS HEREBY REQUESTED TO CHARGE SUCH FEE TO OUR DEPOSIT ACCOUNT 13-  
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